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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/212,203 12/15/98 HAMILTON

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EXAMINER

PHAN, H

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 06/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/212,203

Applicant(s)  
HAMILTON et al

Examiner  
Hanh Phan

Art Unit  
2633



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on Dec 15, 1998

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 1-17 is/are pending in the application

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-4 and 9-13 is/are rejected.

7) ☒ Claim(s) 5-8 and 14-17 is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirements

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4

20) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 9, 11, and 12 are rejected under 35U.S.C. 103(a) as being unpatentable over Jackson (U.S. Patent number 5,714,909, cited by applicant) in view of Ho et al (U.S. Patent number 5,907,422).

Regarding claims 1, 9, and 11, Jackson teaches an improved infrared transceiver system comprising:

a first sensor (12)(Fig. 1) for detecting infrared signals incident thereon and converting said signals to an electrical current signal;

a voltage converter for converting said current signals into voltage signals (col. 3, lines 1-48).

Jackson differs from claims 1, 9, and 11 in that he does not specifically teach a gain controller for amplifying said current signals. However, as evidenced by Ho, providing a gain controller for amplifying said current signals (Fig. 2, col. 3, lines 20-48, and see abstract section) is well known in the art. Therefore, it would have been obvious to an artisan of ordinary skill at

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the time of the invention to incorporate the gain controller as taught by Ho to Jackson in order to adjust the gain of the signal and to amplify the current signal.

Regarding claim 2, the combination of Jackson and Ho teaches an improved infrared transceiver system wherein said first sensor comprises a diode (12)(Fig. 1 of Jackson).

Regarding claims 4 and 12, the combination of Jackson and Ho teaches an improved infrared transceiver system wherein said gain controller comprises a current mirror in operative connection with a transimpedance amplifier (Fig. 1 of Jackson and Fig. 2 of Ho). This supporting rationale is based on a recognition as a result of attempt by the applicant to solve an unknown problem but merely amount to the selection of expedients known to the artisan of the ordinary skill as design choice.

3. Claims 3 and 10 are rejected under 35U.S.C.103(a) as being unpatentable over Jackson (U.S.Patent number 5,714,909, cited by applicant) in view of Ho et al (U.S.Patent number 5,907,422) and further in view of Gusinov (U.S.Patent number 5,455,705).

Regarding claims 3 and 10, the combination of Jackson and Ho differs from claims 3 and 10 in that it does not specifically teach further comprising a staged amplifier in circuit between said gain controller and said voltage converter, said staged amplifier configured to amplify said current signals. However, as evidenced by Gusinov, providing a staged amplifier in circuit between said gain controller and said voltage converter, said staged amplifier configured to amplify said current signals (Figs. 1 and 2, col. 4, lines 10-65)) is well known in the art.

Therefore, it would have been obvious to an artisan of ordinary skill at the time of the invention to

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incorporate the staged amplifier as taught by Gusinov to the combination of Jackson and Ho in order to adjust to amplify the current signal.

4. Claims 5-8 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimizu et al (U.S. Patent number 6,038,049) teaches waveform shaping circuit and a data transmitting apparatus using such a circuit.

Rybacki et al (U.S. Patent number 6,175,601) teaches infrared data processing circuit.

Shang et al (U.S. Patent number 6,219,166) teaches optical receiver suitable for optical interconnects.

Yokogawa et al (U.S. Patent number 6,137,101) teaches light receiving amplifying device.

Rodwell (U.S. Patent number 4,623,786) teaches transimpedance amplifier with overload protection.

Smoot (U.S. Patent number 4,498,001) teaches transimpedance amplifier for optical receivers.

Bayruns et al (U.S. Patent number 5,646,573) teaches automatic gain control transimpedance amplifier.

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Garner et al (U.S. Patent number 6,052,030) teaches low voltage variable gain amplifier with feedback.

Kim et al (U.S. Patent number 6,057,736) teaches gain controlled amplifier.

Mikamura (U.S. Patent number 5,363,064) teaches preamplifier for optical communication having a gain control circuit.

Devon (U.S. Patent number 5,790,295) teaches gated integrator preamplifier for infrared data networks.


Ota (U.S. Patent number 6,055,279) teaches burst mode digital optical receiver.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

  
LESLIE PASCAL  
PRIMARY EXAMINER